QM-RMCRX-BA

Room Media Controller and QuickMedia® Receiver

Crestron's MediaManager is a comprehensive family of affordable products fusing high-performance AV signal distribution, device control, and facility-wide system management. MediaManager simplifies the art of ProAV system design and installation with complete hardware, software, and low-cost wiring solutions.

The QM-RMCRX-BA combines a 2-Series Ethernet control system with a QuickMedia® receiver, digital audio processor, and stereo amplifier to provide a
cost-effective solution for AV signal routing and control as part of a complete MediaManager AV presentation system.

QuickMedia® Transport
Crestron's ingenious QuickMedia transport routes all audio, video, and RGB computer signals over a single inexpensive CAT5e type cable*. Computer resolutions up to 1920 X 1200 pixels at 60Hz are supported over cable runs up to 450 feet. Stereo audio and microphone signals are transmitted digitally with high-performance 24-bit resolution.

QuickMedia Receiver
Mounted at the projector or plasma display location, the QM-RMCRX-BA receives the QuickMedia (QM) signal from any QM Transmitter or Distribution Center, breaking out each media signal to its respective format to feed the AV inputs on the display device.

High-Res Computer and Video
Separate composite, S-Video, and RGBHV outputs deliver high-quality video and high-resolution computer graphics to the display device. Signal routing occurs automatically under the command of the control system based upon the input source selected at the QM transmitter. Software-controllable compensation maximizes image quality over long cable runs.

High-Performance Audio
In addition to video and RGB, the QuickMedia transport carries four channels of 24-bit digital audio comprising a stereo program signal and two discrete microphone signals. Within the QM-RMCRX-BA, each of the two incoming microphone signals is processed by its own 4-band speech-optimized graphic equalizer. Versatile 4X3 mixing allows the mic signals and stereo program signal to be precisely adjusted and routed to any of three audio output channels. The three channels are ordinarily configured to support discrete stereo program and mono speech outputs, although any mix of signals is possible.

The three balanced line-level outputs can be connected directly to inputs on the display device or used to feed a separate amplifier or external powered speakers. A built-in 20 watt stereo amplifier is also provided to drive a pair of speakers directly.

Professional Digital Audio Processing
Each output channel includes software-adjustable volume, bass, treble, and mute, plus ten-band graphic equalization and 2-band parametric equalization. In addition, the speech output includes up to 40mS of delay adjustment for proper ceiling speaker alignment. All audio processing and mixing is performed in the digital domain, adjustable at setup using Crestron's QM Tools software (part of Crestron Toolbox).

With such extensive audio features, the QM-RMCRX-BA effectively eliminates the need for expensive outboard processors to tailor the system's audio performance to the acoustical environment. Many

parameters are controllable in real-time from a keypad or touchpanel, and numerous presets can be saved for instant recall to reconfigure settings for changing room conditions or varying source material.

Display Control Interface
The QM-RMCRX-BA includes two bidirectional RS-232 ports and one IR/Serial port to provide full control of the display device and other equipment. Two relay ports are also included for control of a projection screen or lift. In addition, the four digital input ports can accept the direct connection of room occupancy sensors and power sensors for enhanced automation and monitoring.

2-Series Ethernet Control System
At the heart of the QM-RMCRX-BA is the
powerful 2-Series control engine, which can be configured to serve as the master control system for an entire MediaManager system or as a slave device communicating with other Crestron components via Cresnet or Ethernet. The built-in high-speed Ethernet port and Web server provide full connectivity for remote programming and diagnostics, and seamless integration into control
networks of any size. Native support for Crestron e-Control®2 and RoomView®
applications delivers the industry's best IP-based control and help desk solution. Best of all, complete MediaManager systems are easy to design, program and adjust from start to finish using Crestron SystemBuilder™ software.

> 2-Series Ethernet Control System and QuickMedia Receiver

> Built-in Web server supports e-Control 2 and RoomView

> RS-232, IR, digital in and relay control ports

> Composite, S-Video and RGBHV outputs

> Onboard audio mixing, equalization, and delay processing

> 3 Balanced audio line outputs and built-in 20W stereo amplifier

QM-RMCRX-BA

> 22 nS delay skew compensation and self-peaking audio

> Easy configuration and setup using SystemBuilder software

SPECIFICATIONS

Processor

CPU: 32-bit Freescale ColdFire® Microprocessor

Memory

SDRAM: 32 MB
NVRAM: 256 KB
Flash: 4 MB

Operating System

Real-time, preemptive, multitasking kernel, multi-threaded; FAT32 file system with long names; supports SIMPL™ Windows® and SIMPL+®

Ethernet

10/100BaseT, static IP or DHCP/DNS, SSL, auto-negotiating, full duplex TCP/IP, UDP/IP, CIP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control®2 XPanel and RoomView® applications

Video

Signal Types: RGB and composite, S-Video, or component† video
Video/HDTV Formats: NTSC or PAL, HDTV up to 1080i/1080p†
RGB Formats: RGBHV, RGBS, or RGsB
Gain: 0dB (75 ohms terminated)
Maximum Resolution: 1920 x 1200 @ 60Hz (at unity gain) with maximum cable length of 450 feet and maximum compensation
QM Cable Compensation: 10-bit digitally controlled PEAK (bandwidth) and BOOST (frequency); 4-bit digitally controlled SKEW delay, 0 to 22 ns (independent for R/Pr, G/Y, and B/Pb)

Audio

Features: 4x3 mic/program matrix mixer, 2-channels mic EQ, stereo volume/tone control and EQ on PROGRAM output, mono volume/tone control and EQ/delay on SPEECH output, integrated power amplifier, QM auto-compensation with self-peaking
D-A Conversion: 24-bit, 48 kHz
Output Volume Range: -80dB to +20dB, 0.1dB steps
Mixer Volume Range: -80dB to 0dB, 0.1dB steps
Input Compensation: ±10dB, 0.1dB steps
Mic EQ Filter Gain: ±12dB, 0.1dB steps
Mic EQ Filter Center Frequencies: 160, 500, 1.2k, 3k Hz
Bass Gain Range: ±12dB @ 100Hz, 0.5dB steps
Treble Gain Range: ±12dB @ 10kHz, 0.5dB steps
Output Equalization: 10-band graphic + 2-band parametric
PEQ Filter Gain: ±12dB, 0.1 dB steps
PEQ Filter Bandwidth: 0.1 to 3.0 octaves, 0.1 octave steps
PEQ Filter Center Frequency: 25Hz to 20kHz, 0.5Hz steps
PEQ Filter Types: Low Pass, High Pass, Peaking Eq, Notch, Treble Shelf, Bass Shelf
GEQ Filter Gain: ±12dB, 0.1dB steps
GEQ Filter Center Frequencies: 31, 63, 125, 250, 500, 1k, 2k, 4k, 8k, 16k Hz
Speech Output Delay: 0 to 40 mS, 1mS steps
Frequency Response: 20Hz to 20kHz ±0.5dB
S/N Ratio: 94dB (line), 90dB (speaker) 20Hz to 20kHz A-weighted
THD+N: 0.05% (line), 0.7% (speaker) 20Hz to 20kHz

Connectors - Front Panel

QM: (1) 8-wire RJ45 female, QuickMedia input port;
Connects to QM output port of any QuickMedia device via CresCAT-QM or CRESCAT-IM cable*

NET: (2) 4-pin 3.5mm detachable terminal blocks;
Cresnet ports (paralleled), Master/Slave selectable;
Connect to Cresnet control network via CresCAT-QM or Cresnet cable
24VDC: (1) 2.1mm barrel DC power jack;
24 Volt DC power input (power supply included);
Passes through to NET ports to power additional Cresnet devices
LAN: (1) 8-wire RJ45 with 2 LED indicators;
10/100BaseT Ethernet port;
Green LED indicates link status;
Yellow LED indicates Ethernet activity
SPEAKER L - R: (2) 2-pin 5mm detachable terminal blocks;
Left & Right Speaker-level audio outputs;
Output Power: 10 Watts per channel at 4 or 8 ohms

Connectors - Rear Panel

S-VIDEO: (1) 4-pin mini DIN female, S-Video (Y/C) output;
Output Level: 1.0 Vp-p (luma), 0.7 Vp-p (chroma);
Output Impedance: 75 ohms
VIDEO: (1) BNC female, composite video output;
Output Level: 1.0 Vp-p
Output Impedance: 75 ohms
RGBHV: (1) DB15HD female, RGB(VGA)/component video† output;
Formats: RGBHV, RGBS, RGsB, YPbPr;
Output Level: 1 Vp-p nominal;
Sync Level: 5 Vp-p nominal;
Output Impedance: 75 ohms;
H/V Sync Impedance: 100 ohms
G: 6-32 screw, chassis ground lug
AUDIO: (1) 9-pin 3.5mm detachable terminal block;
Comprises (3) balanced line-level audio outputs;
Output Impedance: 200 ohms balanced, 100 ohms unbalanced;
Maximum Output Level: 4 Vrms balanced, 2 Vrms unbalanced
INPUT 1 - 4: (1) 5-pin 3.5mm detachable terminal block;
Comprises (4) digital/contact closure inputs;
Rated for 0-24 Volts DC, referenced to GND;
Input Impedance: 2.2k ohms pulled up to 5 Volts DC;
Logic Threshold: 2.5 Volts DC nominal with 1 Volt hysteresis band
IR: (1) 2-pin 3.5mm detachable terminal block;
IR/Serial port;
IR output up to 1.2 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 9600 baud
COM A - B: (2) DB9 male, bidirectional RS-232 ports;
Up to 115.2k baud, hardware and software handshaking support;
Com port B also serves as the computer console port
RELAY OUTPUT 1 - 2: (2) 2-pin 3.5mm detachable terminal blocks comprising (2) normally open, isolated relays;
Rated 2 Amp, 50 Volts AC/DC;
MOV arc suppression across contacts

LED Indicators

QM LINK: (red) Indicates presence of a digital audio signal to signify a valid QM connection
NET: (yellow) Indicates communication with Cresnet system
PWR: (green) Indicates DC power supplied to unit
ACT: (red) Indicates activity on the LAN port
COM A - B: (red x2) Indicate activity on each respective COM port
IR: (red) Indicates activity on the IR port
INPUT: (red) Indicate activity on any digital input port

Buttons

HW-R: Hardware reset (reboots the control system)
SW-R: Software reset (restarts the SIMPL program)

Power Requirements

38 Watts (1.6 Amps) @ 24 Volts DC(PW-2420RU power supply included)
Available Cresnet Power: 12 Watts using PW-2420RU (included)

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Cresnet Power Usage: 38 Watts (1.6 Amps @ 24 Volts DC) with no power supply connected to the 24VDC connector

Environmental

Temperature: 41° to 104°F (5° to 40°C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure

Chassis: Steel, black matte powder coat finish, fan-cooled, vented top and sides
Mounting: Free-standing, surface-mount, or pole-mount (adhesive feet and [4] "L" brackets included, MK-QM-RMCRX pole mount kit sold separately)

Dimensions

Height: 2.53 in (6.43 cm)
Width: 7.67 in (19.48 cm)
Depth: 6.04 in (15.34 cm)

Weight

1.7 lbs (0.77 kg)

* *For QuickMedia wiring use CresCAT-QM, CresCAT-IM, or quality CAT5e/CAT6 cable with a delay skew of ≤15nS per 100m; the maximum aggregate cable length and delay skew between any QM transmitter (origination point) and QM receiver (endpoint) is 450 ft (137 m) and 22 nS; a maximum of two QM midpoint devices may be inserted in a given QM signal path; exceptions apply, refer to each respective product manual for full detail.*

† *Component video or HDTV may require a suitable VGA-to-component adapter or breakout cable, not provided.*

Available Models

QM-RMCRX-BA: Room Media Controller and QuickMedia Receiver

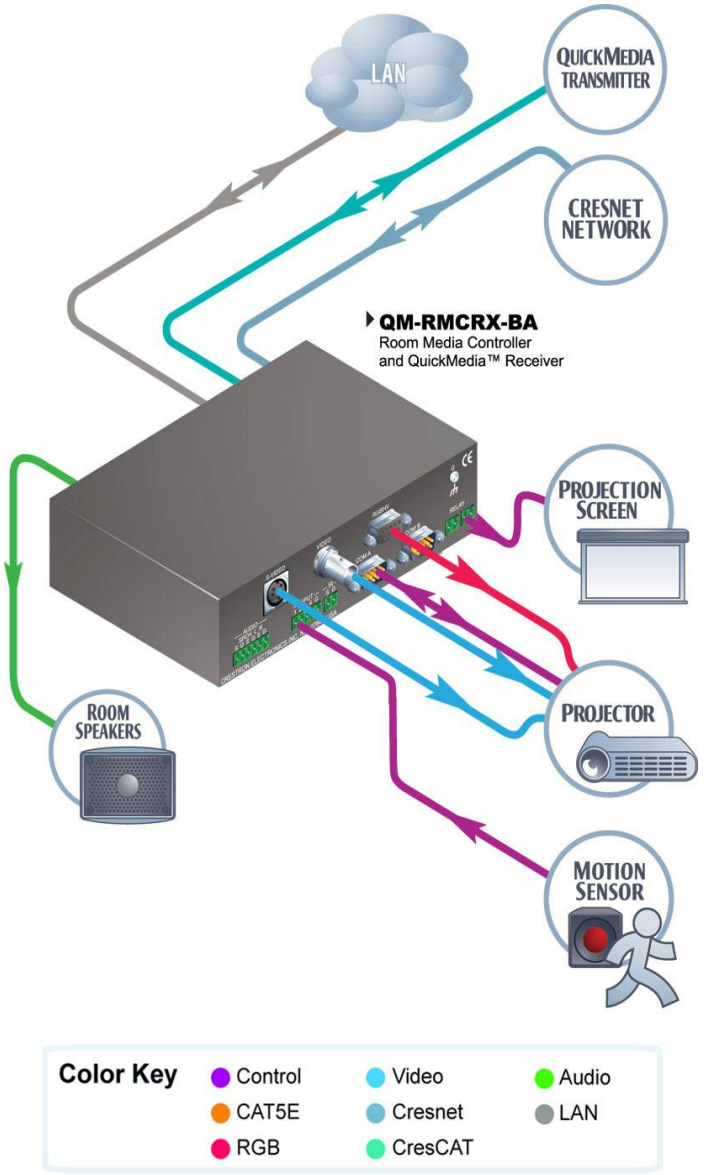
Included Accessories

PW-2420RU Power Pack, Desktop, 24VDC, 2A (50 Watts), Regulated, US/International [Included Quantity: 1]

Available Accessories

CBL-VGA-1.5: Crestron® Certified Computer VGA Interface Cable, 1.5 ft
CBL-VGA-12: Crestron® Certified Computer VGA Interface Cable, 12 ft
CBL-VGA-25: Crestron® Certified Computer VGA Interface Cable, 25 ft
CBL-VGA-3: Crestron® Certified Computer VGA Interface Cable, 3 ft
CBL-VGA-6: Crestron® Certified Computer VGA Interface Cable, 6 ft
CNSP-XX: Custom Serial Interface Cable
CNXRMCS: TV Current Sensor
CRESCAT-QM-NP-SP500: QuickMedia® Cable, Low-skew CAT5e & Cresnet, non-plenum, 500 ft spool
CRESCAT-QM-P-SP500: QuickMedia® Cable, Low-skew CAT5e & Cresnet, plenum, 500 ft spool
IRP2: IR Emitter Probe
MK-QM-RMCRX: Pole Mount Bracket for QM-RX and QM-RMCRX-BA
SW-ROOMVW-ENT: RoomView® Express - Remote Help Desk and Resource Management Software
SW-ROOMVW-SERVER: RoomView® Server Edition - Enterprise Management and Scheduling Software [Discontinued]

Typical QM-RMCX-BA Application



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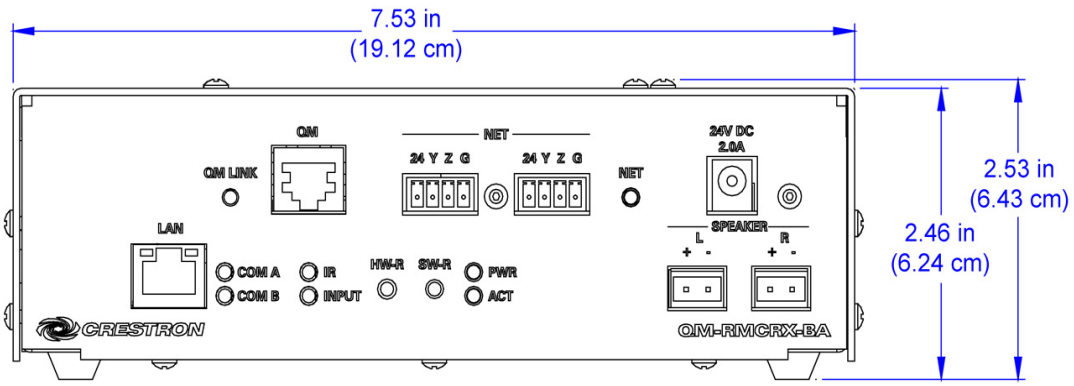
QM-RMCRX-BA

Front



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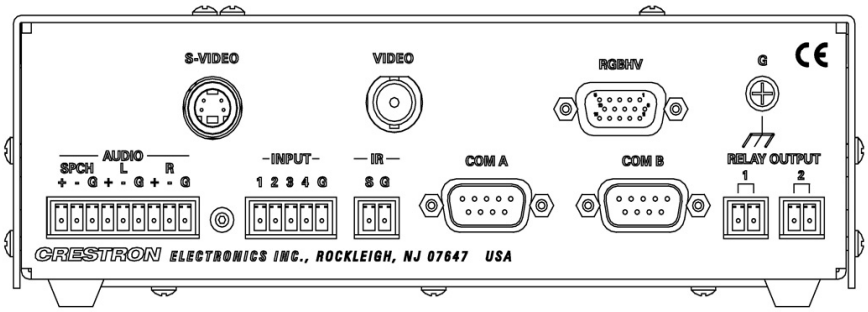

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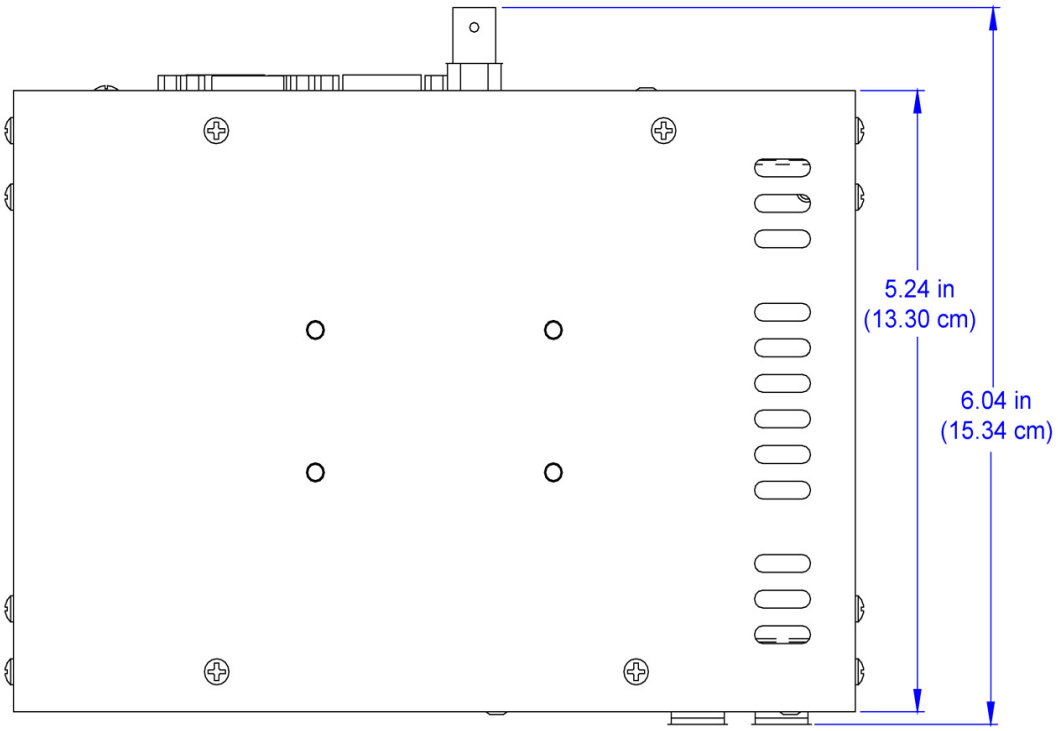

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